

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for obtaining a pure aliphatic dialdehyde monoacetal by comprising reaction of the corresponding aliphatic dialdehyde or a precursor of the corresponding aliphatic dialdehyde with one or more aliphatic mono- or polyhydric alcohols while distillatively removing water to obtain a reaction mixture which is separated distillatively, said process further comprising which comprises carrying out the distillative separation continuously in (i) a dividing wall column to obtain pure aliphatic dialdehyde monoacetal as a sidestream from the dividing wall column, or (ii) in two distillation columns to obtain crude aliphatic dialdehyde monoacetal as a sidestream in the first distillation column, feed feeding the crude aliphatic dialdehyde monoacetal to the second distillation column, and obtain obtaining pure aliphatic dialdehyde monoacetal as the sidestream from the second distillation column.
2. (Original) A process as claimed in claim 1, wherein the reaction mixture is heated to from 80 to 130°C before the distillative separation.
3. (Currently Amended) A process as claimed in either of claims claim 1 or 2, wherein the reaction mixture is heated for at least 15 minutes, preferably from 30 minutes to 4 hours, more preferably for 1 hour, preferably at from 90 to 110°C.
4. (Currently Amended) A process as claimed in any of claims claim 1 to 3, wherein the aliphatic dialdehyde is a substance from the following list: selected from the group consisting of malonaldehyde, succinaldehyde, glutaraldehyde, and/or adipaldehyde.
5. (Currently Amended) A process as claimed in claim 4, wherein the aliphatic dialdehyde used is glutaraldehyde, preferably in aqueous solution, more preferably as a 50% by weight aqueous solution, or its precursor, 2-hydroxy-3,4-dihydro-2H-pyran.
6. (Currently Amended) A process as claimed in any of claims claim 1 to 5, wherein the aliphatic mono- or polyhydric alcohol is a diol, in particular ethylene glycol, 1,2-propylene

~~glycol, 1,3 propylene glycol, 1,2 butanediol, 1,3 butanediol or 1,4 butanediol, more preferably ethylene glycol.~~

7. (Currently Amended) A process as claimed in claim 5-~~or 6~~, wherein glutaraldehyde is reacted with ethylene glycol in a molar ratio in the range from 1:1.5 to 1.5:1, ~~preferably from 1:1.2 to 1.2:1, more preferably of 1.0:1.0~~.

8. (Currently Amended) A process as claimed in ~~any of claims claim 1-to-7~~, wherein the reaction is carried out in the presence of an acidic catalyst, ~~in particular of a cation exchanger, of a mineral acid, preferably sulfuric acid, hydrochloric acid, more preferably orthophosphoric acid, or an organic acid, in particular acetic acid, p-toluenesulfonic acid or methanesulfonic acid~~, in a concentration of from 0.02 to 5% by weight, ~~preferably from 0.1 to 1% by weight, more preferably of 0.3% by weight~~, based on the total weight of the reaction mixture.

9. (Currently Amended) A process as claimed in ~~any of claims claim1-to-8~~, wherein the optionally heated reaction mixture is continuously separated in two distillation columns to remove the crude aliphatic dialdehyde monoacetal as a sidestream in a first distillation column and the pure aliphatic dialdehyde monoacetal as a sidestream in a second distillation column.

10. (Currently Amended) A process as claimed in ~~any of claims claim1-to-8~~, wherein the optionally heated reaction mixture is separated in a dividing wall column having a vertical dividing wall which is disposed in the longitudinal direction of the column and divides the column into a feed region, a takeoff region, a lower combined column region and also an upper combined column region, to recover pure aliphatic dialdehyde monoacetal as a sidestream from the withdrawal region.

11. (Currently Amended) A process as claimed in ~~any of claims claim1-to-10~~, wherein the distillative separation of the optionally heated reaction mixture is carried out with the addition of a high-boiling diluent in the lower region of the first distillation column or in the upper combined column region of the dividing wall column.

12. (Currently Amended) A process as claimed in claim 11, wherein the high-boiling diluent is a substance or a mixture of substances selected from the group consisting of
~~following listed groups:~~ alkanes, aromatics or polyethers, preferably polypropylene glycols, and ~~or~~ polyethylene glycols, ~~more~~ preferably polyethylene glycol having an average molecular mass of 300.
13. (New) A process as claimed in claim 3, wherein the reaction mixture is heated from 30 minutes to 4 hours, at from 90 to 110°C.
14. (New) A process as claimed in claim 13, wherein the reaction mixture is heated for 1 hour.
15. (New) A process as claimed in claim 5, wherein the glutaraldehyde is used in aqueous solution.
16. (New) A process as claimed in claim 15, wherein the aqueous solution of glutaraldehyde is a 50% by weight aqueous solution.
17. (New) A process as claimed in claim 6, wherein the aliphatic diol is selected from the group consisting of ethylene glycol, 1,2-propylene glycol, 1,3-propylene glycol, 1,2-butanediol, 1,3-butanediol, and ~~r~~ 1,4-butanediol.
18. (New) A process as claimed in claim 17, wherein the aliphatic diol is ethylene glycol.
19. (New) A process as claimed in claim 7, wherein glutaraldehyde is reacted with ethylene glycol in a molar ratio in the range from 1:1.2 to 1.2:1.
20. (New) A process as claimed in claim 19, wherein glutaraldehyde is reacted with ethylene glycol in a molar ratio in the range from 1.0:1.0.
21. (New) A process as claimed in claim 8, wherein the acidic catalyst is selected from the group consisting of a cation exchanger, a mineral acid, and an organic acid.

22. (New) A process as claimed in claim 12, wherein the polyethylene glycol has an average molecular mass of 300.